

What is claimed:

1. A laryngeal mask of the type used to facilitate lung ventilation and the insertion of endo-tracheal tubes or related medical instruments through a patient's laryngeal opening as used during general anesthesia, intensive care, or critical patient  
5 care, comprising:  
  
an inflatable positioning shield formed to fit within a patient's oropharynx, said positioning shield having an inflatable, hollow peripheral portion, a pliable base in fluid communication with the peripheral portion, a shield recess formed after inflation of the peripheral portion, a rear portion formed between the posterior base and the peripheral  
10 portion after inflation of the peripheral portion, wherein the posterior base has a recessed front portion; and  
  
a respiratory tube having a proximal end lumen, a curved tubular body of sufficient size to permit passage of endo-tracheal tubes or related medical instruments, and a distal end passing through and secured to the rear portion of the positioning shield,  
15 the distal end terminating at a distal lumen, the distal lumen passing through and secured to the rear portion of the positioning shield such that tubes and instruments passing through the respiratory tube will be directed into the laryngeal opening.
2. The laryngeal mask of claim 1 wherein the respiratory tube and the positioning shield are pre-curved along about the same arcuate curve such that minimal bending of  
20 the respiratory tube is required during positioning of the laryngeal mask around the laryngeal opening.

3. The laryngeal mask of claim 1 wherein the respiratory tube has an elliptical cross-section, wherein the cross-section is perpendicular to the longitudinal axis of the tube.

4. The laryngeal mask of claim 3 wherein the respiratory tube comprises a material with a low coefficient of friction to facilitate the delivery of endo-tracheal tubes or related medical instruments through the respiratory tube to the laryngeal opening.

5. The laryngeal mask of claim 4 wherein the respiratory tube comprises a material that allows it to deform radially to allow passage of endo-tracheal tubes and related medical instruments having large diameters, and return to its original elliptical cross-section shape upon the removal of said endo-tracheal tubes or related instruments.

6. The laryngeal mask of claim 1 wherein the distal lumen is angled to provide an elongated elliptical channel extending through the rear portion of the inflatable laryngeal mask.

7. The laryngeal mask of claim 1 wherein the distal end of the respiratory tube contained within the rear portion of the positioning shield comprises at least one lumen, the at least one lumen having a diameter that is smaller than the diameter of the distal end lumen.

8. The laryngeal mask of claim 1 wherein the tubular body of the respiratory tube is of sufficient length to permit the proximal end lumen to be disposed adjacent, but external to, the oral cavity and the distal lumen to be disposed adjacent and external to the laryngeal opening.

9. The laryngeal mask of claim 1 wherein the proximal end lumen of the respiratory tube is adapted for attachment to medical devices.

10. The laryngeal mask of claim 1 wherein the peripheral portion of the inflatable positioning shield forms an essentially gap-free enclosure surrounding the laryngeal opening after inflation.

11. The laryngeal mask of claim 10 wherein the inflatable positioning shield is  
5 generally ovoid in shape after inflation.

12. The laryngeal mask of claim 1 wherein the inflatable positioning shield is secured in an airtight manner to the exterior surface of the distal end of the respiratory tube where it passes through the rear portion of the positioning shield.

13. The laryngeal mask of claim 12 wherein the recessed front of the inflatable  
10 positioning shield is in fluid communication with the distal end of the respiratory tube.

14. The laryngeal mask of claim 1 wherein the positioning shield is of sufficient size to enclose the laryngeal opening within the recessed front and to fit securely within the oropharynx anatomy.

15. The laryngeal mask of claim 1 wherein the recessed front comprises at least  
15 one support member adapted to stabilize the posterior base of the inflatable positioning shield.

16. The laryngeal mask of claim 15 wherein the at least one support member is at least one raised horizontal runner that is a continuous extension of the posterior base.

17. The laryngeal mask of claim 1 wherein the distal lumen has about the same  
20 cross-sectional shape as the respiratory tube, wherein the cross-sectional shape is defined by a perpendicular cross-section of the tube along the longitudinal axis of the tube.

18. The laryngeal mask of claim 1 wherein the distal lumen has an elliptical cross-section, wherein the cross-section is perpendicular to the longitudinal axis of the tube.

19. The laryngeal mask of claim 3 wherein the distal lumen has an elliptical cross-section, wherein the cross-section is perpendicular to the longitudinal axis of the tube.

20. The laryngeal mask of claim 1 wherein the distal lumen has a diameter that is smaller than the diameter of the proximal end lumen.

21. The laryngeal mask of claim 20 wherein the distal lumen comprises an upper portion and a lower portion, wherein the upper portion and the lower portion have about the same diameter, the diameter of the upper portion and the lower portion being smaller than the diameter of the proximal end lumen.

22. The laryngeal mask of claim 21 wherein the distal lumen is sufficiently pliable such that it opens upon assertion of pressure thereon and returns to its original shape when the pressure is released.

23. The laryngeal mask of claim 1 wherein the distal lumen comprises an upper portion and a lower portion, the upper portion having a diameter that is different from the diameter of the lower portion.

24. The laryngeal mask of claim 23 wherein the upper portion has a diameter that is larger than the diameter of the lower portion.

25. The laryngeal mask of claim 1, wherein the recessed front portion comprises a material that is sufficiently pliable to cup the patient's trachea after inflation of the positioning shield.

26. The laryngeal mask of claim 1, wherein the peripheral portion is wedge-shaped.

27. A laryngeal mask of the type used to facilitate lung ventilation and the insertion of endo-tracheal tubes or related medical instruments through a patient's laryngeal opening as used during general anesthesia, intensive care, or critical patient care, comprising:

an inflatable positioning shield curved to fit within the anatomical structures of the oropharynx region when inflated, the positioning shield enclosing the laryngeal opening within a recessed front, and having an inflatable, hollow peripheral portion, the recessed front being sufficiently pliable to cup the patient's trachea after inflation of the positioning shield; and

a respiratory tube having a proximal end lumen, a curved tubular body having an elliptical cross-section, and being sufficiently radially deformable to permit passage of endo-tracheal tubes and related medical instruments there through, and a perforated distal end passing through and secured in an air-tight manner to the rear portion of the positioning shield, terminating at a distal lumen within the rear portion of the positioning shield so as to be aligned axially within the laryngeal opening upon insertion into the oropharynx, wherein the cross-section is perpendicular to the longitudinal axis of the tube.

28. A laryngeal mask of the type used to facilitate lung ventilation and the insertion of endo-tracheal tubes or related medical instruments through a patient's laryngeal opening as used during general anesthesia, intensive care, or critical patient care, comprising:

an inflatable positioning shield curved to fit within a patient's oropharynx, said positioning shield having an inflatable, hollow peripheral portion, a pliable base in fluid communication with the peripheral portion, a shield recess formed after inflation of the peripheral portion, and a rear portion formed between the posterior base and the peripheral portion after inflation of the peripheral portion, wherein the posterior base has a recessed front portion, the recessed front portion being sufficiently pliable to cup the patient's trachea after inflation of the positioning shield; and

a respiratory tube having a proximal end lumen, a curved tubular body of sufficient size to permit passage of endo-tracheal tube, and related medical instruments therethrough, and a distal end passing through and secured to the rear portion of the positioning shield, the distal end terminating at a distal lumen, the distal lumen passing through and secured to the rear portion of the positioning shield such that tubes or related medical instruments passing through the respiratory tube will be directed into the laryngeal opening,

wherein the recessed front portion of the posterior base comprises at least one raised horizontal runner that is a continuous extension of the posterior base, and

wherein the distal lumen comprises an upper portion and a lower portion, wherein the upper portion and the lower portion have about the same diameter, the diameter of the upper portion and the lower portion being smaller than the diameter of the proximal end lumen.

29. A laryngeal mask of the type used to facilitate lung ventilation and the insertion of endo-tracheal tubes or related medical instruments through a patient's

laryngeal opening as used during general anesthesia, intensive care, or critical patient care, comprising:

an inflatable positioning shield formed to fit within a patient's oropharynx, said positioning shield having an inflatable, hollow peripheral portion, a pliable base in fluid communication with the peripheral portion, a shield recess formed after inflation of the peripheral portion, and a rear portion formed between the posterior base and the peripheral portion after inflation of the peripheral portion, wherein the posterior base has a recessed front portion, the recessed front portion being sufficiently pliable to cup the patient's trachea after inflation of the positioning shield; and

a respiratory tube having a proximal end lumen, a curved tubular body of sufficient size to permit passage of endo-tracheal tubes, and related medical instruments, and a distal end passing through and secured to the rear portion of the positioning shield, the distal end terminating at a distal lumen, the distal lumen passing through and secured to the rear portion of the inflatable positioning shield such that tubes or other related medical instruments passing through the respiratory tube will be directed into the laryngeal opening,

wherein the recessed front portion of the posterior base comprises at least one raised horizontal runner that is a continuous extension of the posterior base,

wherein the distal lumen comprises an upper portion and a lower portion, wherein the upper portion and the lower portion have about the same diameter, the diameter of the upper portion and the lower portion being smaller than the diameter of the proximal end lumen, and

wherein the distal lumen is sufficiently pliable such that it opens upon assertion of pressure thereon and returns to its original shape when the pressure is released;

30. A laryngeal mask of the type used to facilitate lung ventilation and the insertion of endo-tracheal tubes or related medical instruments through a patient's laryngeal opening as used during general anesthesia, intensive care, or critical patient care comprising:

an inflatable positioning shield formed to fit within a patient's, the positioning shield having an inflatable, hollow peripheral portion, a pliable base in fluid communication with the peripheral portion, a shield recess formed after inflation of the peripheral portion and a rear portion formed between the posterior base and the peripheral portion after inflation of the peripheral portion, wherein the posterior base has a recessed front portion, the recessed front portion being sufficiently pliable to cup the patient's trachea after inflation of the positioning shield, and

a respiratory tube having a proximal end lumen, a curved tubular body of sufficient size to permit passage of endo-tracheal tubes and related medical instruments, therethrough, and a distal end passing through and secured to the rear portion of the positioning shield, the distal end terminating at a distal lumen, the distal lumen passing through and secured to the rear portion of the positioning shield such that tubes or related medical instruments passing through the respiratory tube will be directed into the laryngeal opening,

wherein the distal lumen comprises an upper portion and a lower portion, the upper portion having a diameter that is different from the diameter of the lower portion.

31. A laryngeal mask of the type used to facilitate lung ventilation and the



insertion of endo-tracheal tubes or related medical instruments through a patient's laryngeal opening as used during general anesthesia, intensive care, or critical patient care is provided that comprises:

an inflatable positioning shield formed to fit within a patient's oropharynx, the positioning shield having an inflatable, hollow peripheral portion, a pliable base in fluid communication with the peripheral portion, a shield recess formed after inflation of the peripheral portion and a rear portion formed between the posterior base and the peripheral portion after inflation of the peripheral portion, wherein the posterior base has a recessed front portion, the recessed front portion being sufficiently pliable to cup the patient's trachea after inflation of the positioning shield; and

a respiratory tube having a proximal end lumen, a curved tubular body of sufficient size to permit passage of endo-tracheal tubes and related medical instruments, therethrough, and a distal end passing through and secured to the rear portion of the positioning shield, the distal end terminating at a distal lumen, the distal lumen passing through and secured to the rear portion of the positioning shield such that tubes and related medical instruments passing through the respiratory tube will be directed into the laryngeal opening,

wherein the distal lumen comprises an upper portion and a lower portion, wherein the upper portion has a larger diameter than the lower portion, and

wherein the distal end of the respiratory tube comprises at least one lumen, the at least one lumen having a diameter that is smaller than the diameter of the proximal end lumen.

32. A laryngeal mask of the type used to facilitate lung ventilation and the insertion of endo-tracheal tubes or related medical instruments through a patient's laryngeal opening as used during general anesthesia, intensive care, or critical patient care is provided that comprises:

5           an inflatable positioning shield formed to fit within a patient's oropharynx, said positioning shield having an inflatable, hollow peripheral portion, a pliable base in fluid communication with the peripheral portion, a shield recess formed after inflation of the peripheral portion, and a rear portion formed between the posterior base and the peripheral portion after inflation of the peripheral portion, wherein the posterior base has  
10   a recessed front portion, the recessed front portion being sufficiently pliable to cup the patient's trachea after inflation of the positioning shield; and

          a respiratory tube having a proximal end lumen, a curved tubular body of sufficient size to permit passage of endo-tracheal tubes and related medical instruments, therethrough, and a distal end passing through and secured to the rear portion of the  
15   positioning shield, the distal end terminating at a distal lumen, the distal lumen passing through and secured to the rear portion of the inflatable positioning shield such that tubes and related medical instruments passing through the respiratory tube will be directed into the laryngeal opening,

          wherein the distal lumen comprises an upper portion and a lower portion, wherein  
20   the upper portion has a larger diameter than the lower portion,

          wherein the distal end of the respiratory tube comprises at least one lumen, the at least one lumen having a diameter that is smaller than the diameter of the proximal end lumen, and

wherein the recessed front portion of the posterior base comprises at least one horizontal runner that is a continuous extension of the posterior base.

33. A laryngeal mask of the type used to facilitate lung ventilation and the insertion of endo-tracheal tubes or related medical instruments through a patient's laryngeal opening as used during general anesthesia, intensive care, or critical patient care, comprising:

an inflatable positioning shield formed to fit within a patient's oropharynx, said positioning shield having an inflatable, hollow peripheral portion, a pliable base in fluid communication with the peripheral portion, a shield recess formed after inflation of the peripheral portion, a rear portion formed between the posterior base and the peripheral portion after inflation of the peripheral portion; and

a respiratory tube having a proximal end lumen, a curved tubular body of sufficient size to permit passage of endo-tracheal tubes or related medical instruments, and a distal end passing through and secured to the rear portion of the positioning shield, the distal end terminating at a distal lumen, the distal lumen passing through and secured to the rear portion of the positioning shield such that tubes and instruments passing through the respiratory tube will be directed into the laryngeal opening.